Nutritional Science-2013

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference and Exhibition on
Nutritional Science & Therapy

July 15-17, 2013 Courtyard by Marriott Philadelphia Downtown, Philadelphia, USA

Obesity and nutrition: A GIS approach to improving public health

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Abstract

The prevalence of obesity has been increasing rapidly for both adults and children worldwide. Research suggests that poor diet is one of the most influential factors that contribute to the higher prevalence of obesity, especially among socioeconomically disadvantaged groups and deprived neighborhoods. This paper assesses the relationship between obesity and access to healthy food from a theoretical standpoint often adopted by social scientists that use Geographic Information System (GIS) in their research. GIS has been used to measure accessibility to food outlets that carry a wide variety of healthy foods, such as fresh fruit and vegetables (F/V) and identify areas lacking easy access to healthy foods or so-called, 'food deserts' in urban and rural residential settings. In addition, GIS has been used to map spatial patterns of obesity and F/V consumption and aid in seeking the spatial autocorrelation at the local and regional levels. Therefore, GIS approaches often provide innovative ideas and new insights into the framework of nutritional research. This paper addresses ways GIS can be integrated into nutritional research, particularly the accessibility to healthy food retailers and review recent work published in the areas of obesity and nutritional research that uses GIS approaches.

Biography

Aki Michimi has completed his Ph.D. in Geography at the University of Connecticut in 2008 and gained postdoctoral experiences in Spatial Epidemiology in the Geographic Information Science Center of Excellence at South Dakota State University. He is currently a Research Assistant Professor in the Department of Public Health at Western Kentucky University. His expertise includes medical/health geography, GIS applications in public health, nutritional epidemiology, and population health. He has published widely in the areas of social science and preventive medicine, and regularly serves as an external reviewer for health science journals. He teaches biostatistics for health sciences.